

# Finding Value in Tough Times

## “Do the Analytics”

presented by

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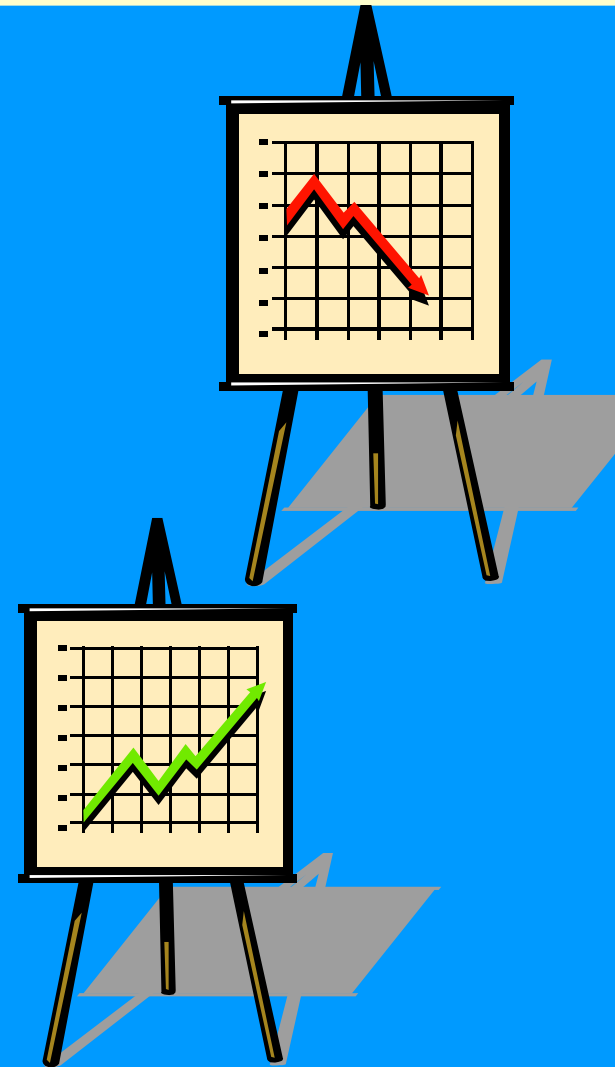


# Finding Value in Today's Market

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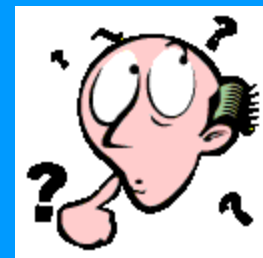
- I. Identify methods to capture value in today's interest rate environment
- II. Assess the relative value of various securities using analytic tools
- III. Avoid common yield traps

# Interest Rate Expectations



# Interest Rate Expectations

- Interest rates are near historical lows....
- What are your expectations for future interest rates?
- If you expect interest rates to rise...



- Should you keep all your funds liquid and wait for rates to rise to their highest level before investing?
- Should you put all your money out longer-term to capture the higher rates?

# What Are Your Current Predictions For Future Interest Rates?

2-Year U.S. Treasury Note Yield  
January 1, 2004 – June 18, 2004



# What Are Your Current Predictions For Future Interest Rates?

**2-Year U.S. Treasury Note Yield  
January 1, 1993 – December 31, 1995**



# Investment Tools Help Make Decisions



**Do the analytics!**

# What Is Your Long-Term Investment Strategy?

<b>Cash Flows</b>	Ensure funds are available to meet the cash flow requirements.
<b>Duration Management</b>	Target the duration to take advantage of higher yields without compromising liquidity requirements.
<b>Portfolio Structure</b>	Structure the portfolio to perform well under a wide range of market conditions and over a long time frame.
<b>Credit Quality</b>	Ensure portfolio is safe and avoids significant levels of credit risk.
<b>Return</b>	Seek to safely achieve a return in line with the Merrill Lynch 1-3 Year Government Index.

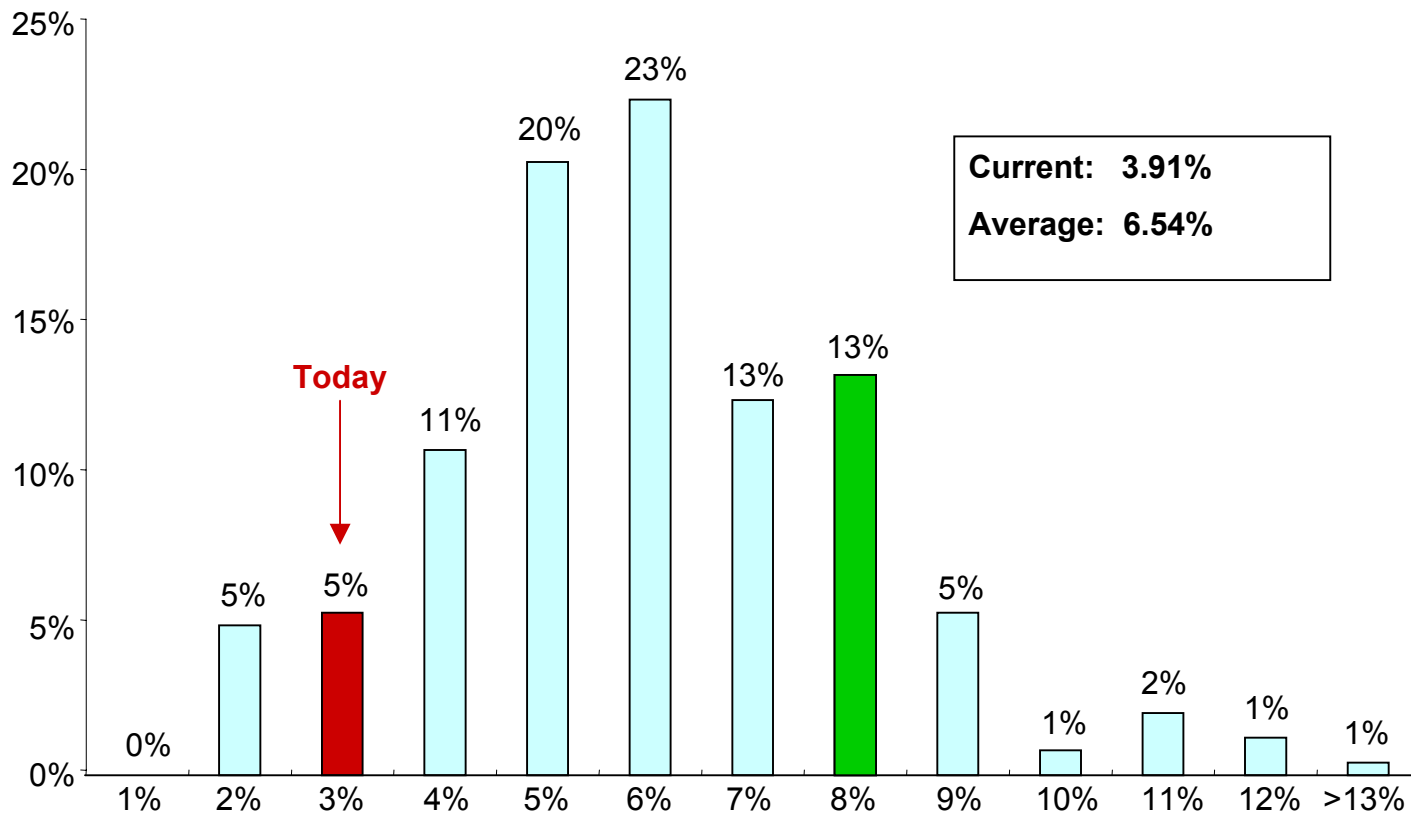
# Investment Tools to Help Make Decisions

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- There are some tools out there to help you determine what to do in these uncertain times.
  - Historical analysis
  - Yield Curve analysis
  - Market expectations
  - Forward-yield curve analysis
  - Breakeven analysis
  - Judgment

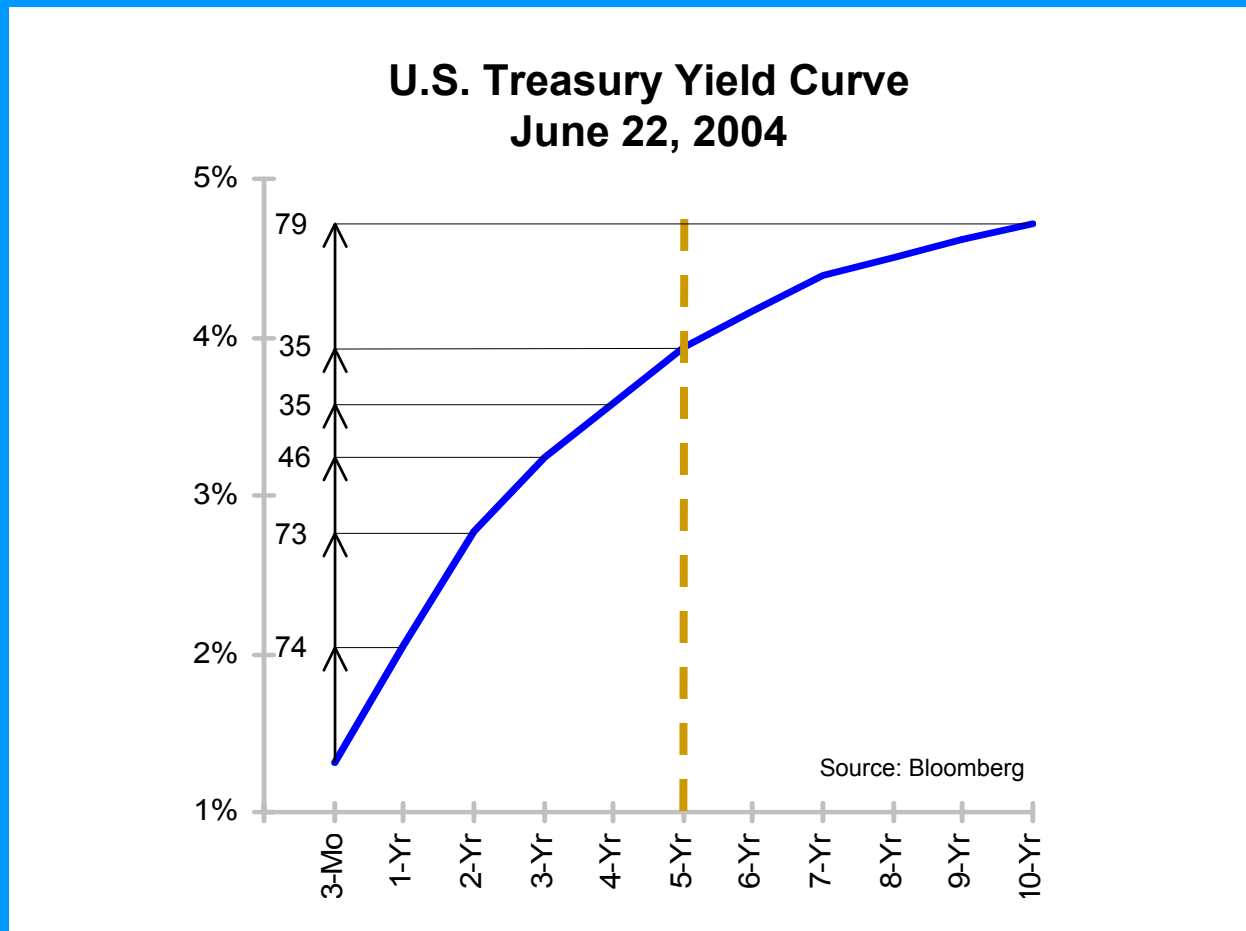
# Historical Analysis

**5-Year U.S. Treasury Yield Histogram  
1984 - 2004**

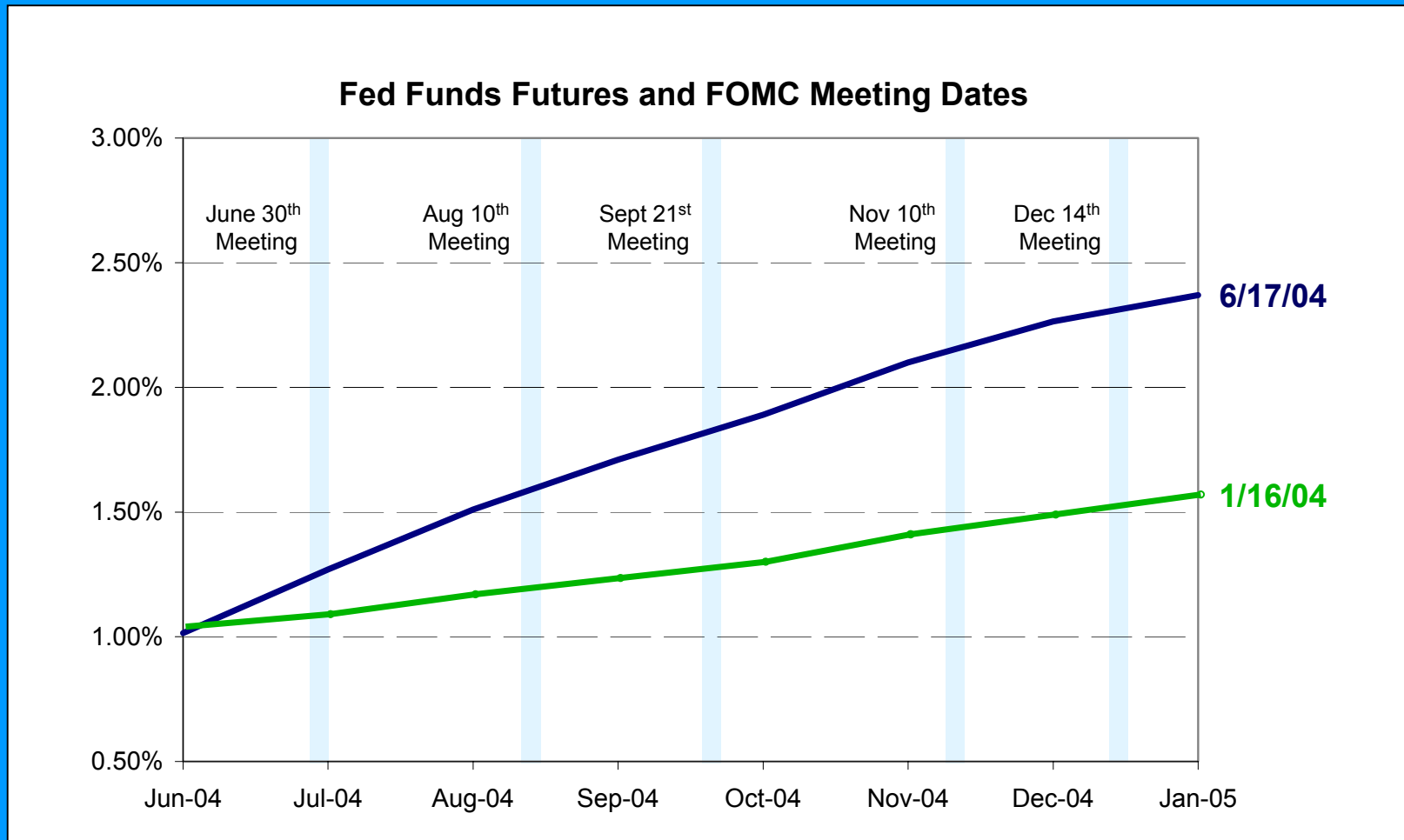


# Yield Curve Analysis

- Yield curve analysis allows an investor to the relative value of different maturities.

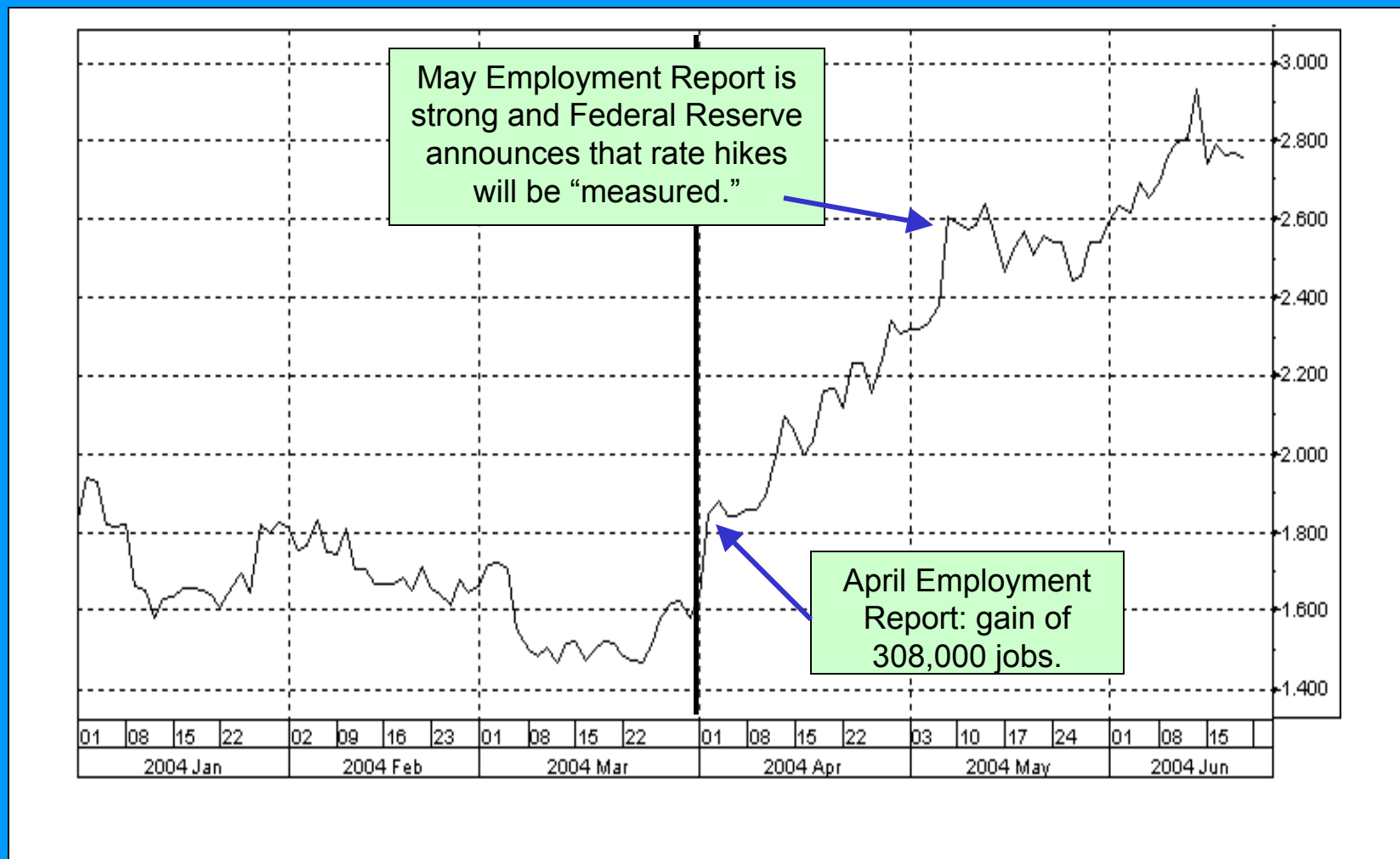


# Monitor the Market's Future Rate Expectations



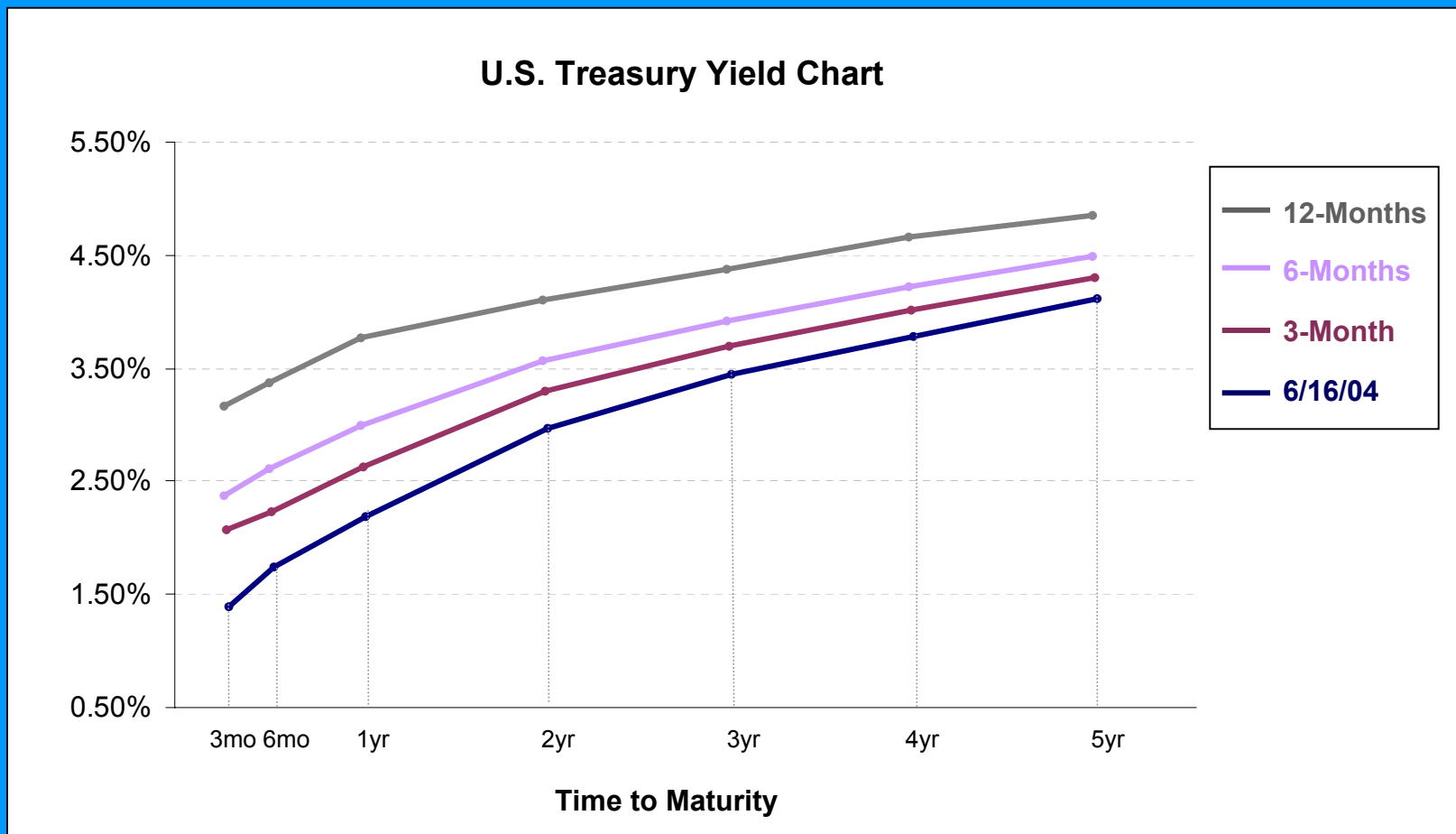
# Stay Abreast of Market Movements and Economic Releases

## 2-Year U.S. Treasury Yield History January 1, 2004 – June 22, 2004



# Forward Yield Curve

- Forward yield curve analysis allows an investor to evaluate and compare projected yields.

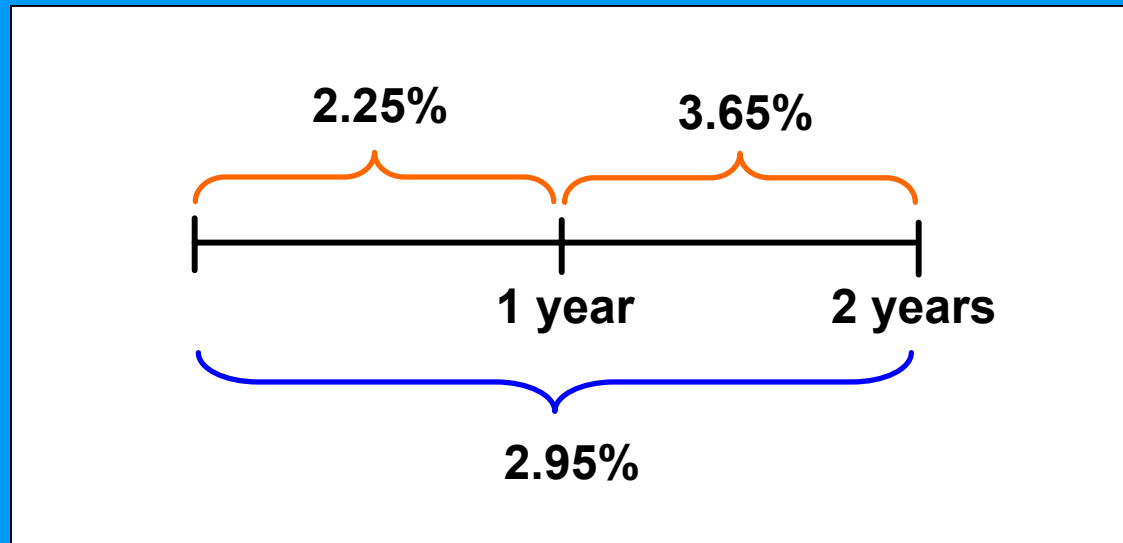


# Break-even Analysis

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- Would you buy a 2-year security yielding 2.95% today?

# Breakeven Analysis



$$2.25 * (1 \text{ year}) + x * (1 \text{ year}) = 2.95 * (2 \text{ years})$$

# Judgment

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- There are times when you should put more in liquid investments and times to put more out long.
  - After doing all the analytics, sometimes you have to make an informed decision.
- All or nothing is the wrong approach.
- Evaluate choices in context of your long-term investment plan.
- Use your judgment when investing.

# Mistakes Investors Make When Searching For Yield



# Higher Yielding Investments

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- Federal Agency notes
- Callable notes
- Corporate securities

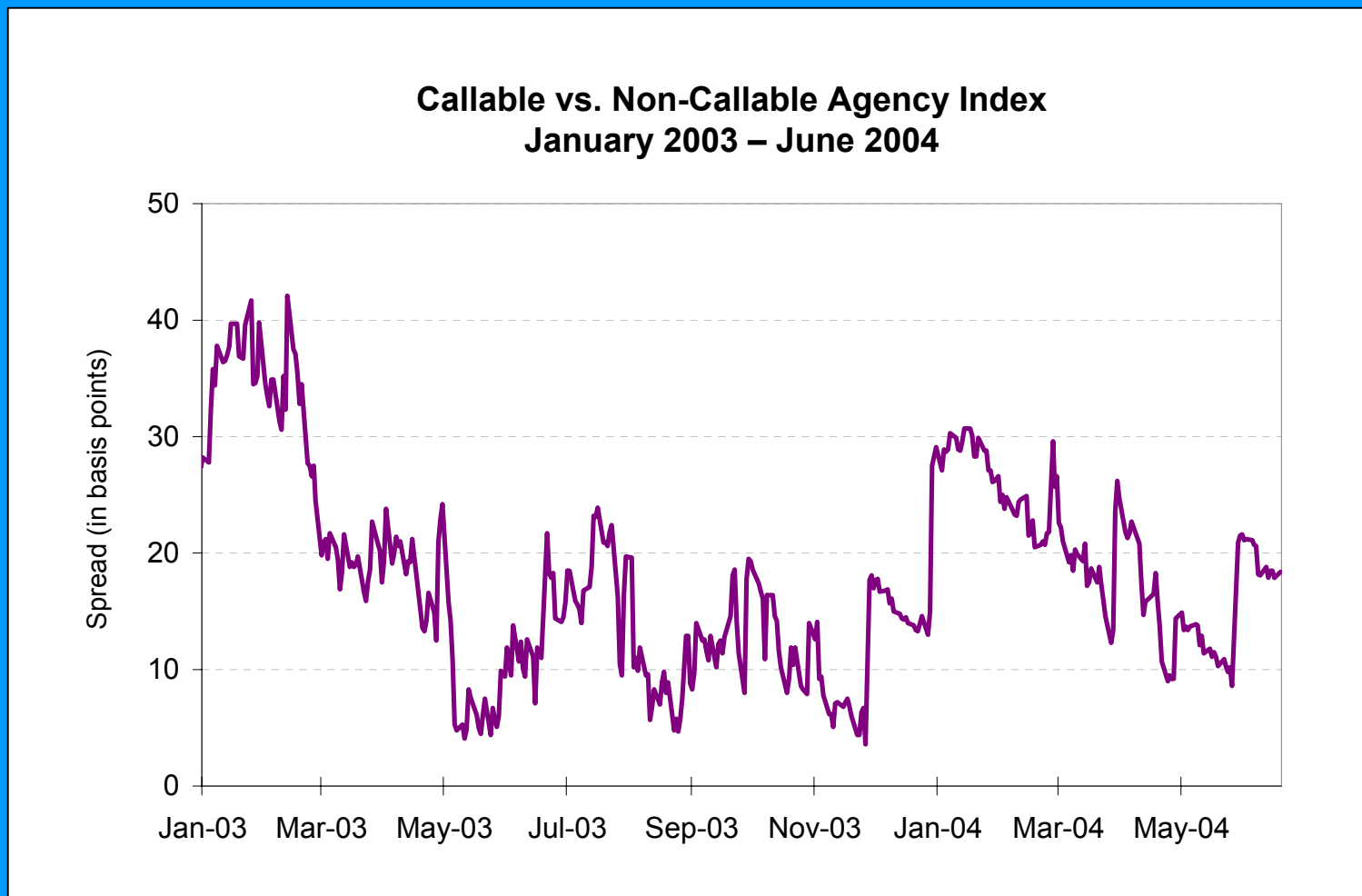
# New Issue Federal Agency Notes

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- New issue agencies do not necessarily have the highest yield.

# Callable Federal Agency Notes

- Spreads can help determine advantageous times to buy callables.



\* Merrill Lynch 1-3 Year Bullet Agency Index vs. 1-3 Options Only Agency Index

- Option-Adjusted Spread Analysis (OAS) is one way that investors evaluate callable securities.
- OAS models calculate the value of the call option to arrive at an “option-free” yield spread.

OPTION-ADJUSTED SPREAD ANALYSIS																																		
FED HOME LN BANK FHLB 3.15 06-05    100.0853/100.0853    (2.98/2.98) BFV @17:04																																		
Calculate (P,O,V) <input type="radio"/> P	Price <b>99.667</b>	OAS (bp) <b>0) +56.41</b>	Volatility V) <b>14.00</b>																															
Cusip / ID#    3133X7MA9    Option Px Value:    0.00																																		
Settle <b>7/ 6/2004</b>																																		
Spread <b>56.3bp vs 2Y   T 2 1/2 05/31/06 Govt@99-16 1/4   ( 2.760)</b>																																		
[NUM]<GO> for: B) Call Schedule 1/ 6/ 5   100.00	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;"></th> <th style="width:15%;">OAS Method</th> <th style="width:15%;">Option Free</th> <th style="width:20%;">To Call on 1/ 6/2005</th> <th style="width:35%;">To Mty</th> </tr> </thead> <tbody> <tr> <td>Yld</td> <td></td> <td>3.322</td> <td><b>3.829</b></td> <td><b>3.323</b></td> </tr> <tr> <td>Sprd</td> <td></td> <td>56.6</td> <td><b>217.9</b></td> <td><b>56.7</b></td> </tr> <tr> <td>M Dur</td> <td>1.82</td> <td></td> <td>0.49</td> <td>1.92</td> </tr> <tr> <td>Risk</td> <td>1.81</td> <td></td> <td>0.49</td> <td>1.92</td> </tr> <tr> <td>Cnvx</td> <td>-0.40</td> <td></td> <td>0.00</td> <td>0.05</td> </tr> </tbody> </table>					OAS Method	Option Free	To Call on 1/ 6/2005	To Mty	Yld		3.322	<b>3.829</b>	<b>3.323</b>	Sprd		56.6	<b>217.9</b>	<b>56.7</b>	M Dur	1.82		0.49	1.92	Risk	1.81		0.49	1.92	Cnvx	-0.40		0.00	0.05
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Model <input checked="" type="checkbox"/> L=Lognormal																																		
Exercise Premium <b>0.00</b>																																		

2) Customize  
 Curve **I111** Semi  
 ON/OFF THE RUN GO  
**N** **6/17/2004**  
 Shift **+0(bps)**  
 Yield Spread

3m	<b>1.251</b>
6m	<b>1.646</b>
1y	<b>2.048</b>
2y	<b>2.756</b>
3y	<b>3.226</b>
4y	<b>3.596</b>
5y	<b>3.910</b>
7y	<b>4.353</b>
10y	<b>4.678</b>
20y	<b>5.405</b>
30y	<b>5.350</b>

88) REFRESH

# Which Callable Is a Better Buy?

	Option A	Option B
Description	FNMA	FHLB
Maturity Date	June 30, 2006	July 6, 2006
First Call Date	12/30/04	1/6/05
Call Frequency	Semi-annual	One-time
Settles	June 30, 2004	July 6, 2004
Yield to Maturity	3.27%	3.27%

## Option A: FNMA

**OAS = +49.9**

OPTION-ADJUSTED SPREAD ANALYSIS

FANNIE MAE
FNMA 3.27 06/06
99-28/100-01
(3.34/3.24) BGN @ 6/16

Calculate (P,O,V) ☐ P) ☐ O
Price 100
OAS (bp) 0) 149.93
Volatility V) 14.00

Cusip / ID# 3136F5T43
Option Px Value: 0.03

Settle 6/30/2004
Spread 51.0bp vs 2Y T 2 1/2 05/31/06 Govt@99-16 1/4 ( 2.760)

{NUM}<GO> for:  
3) Call Schedule  
12/30/ 4 100.00  
6/30/ 5 100.00  
12/30/ 5 100.00

	OAS Method	Option Free	To Call on 12/30/2004	To Mty
Yld		3.256	3.270	3.270
Sprd		50.0	162.3	51.4
M Dur	1.66		0.49	1.92
Risk	1.66		0.49	1.92
Cnvx	-0.86		0.00	0.05

Model ☒ L L=Lognormal  
Exercise Premium 0.00

2) Customize  
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88) REFRESH

# Use Option-Adjusted Spread Analysis To Evaluate Callable Structures

## Option B: FHLB

**OAS = +56.4**

**OPTION-ADJUSTED SPREAD ANALYSIS**  
 FED HOME LN BANK FHLB 3.15 06-05 100.0853/100.0853 (2.98/2.98) BFV @17:04

Calculate **Price** **OAS (bp)** **Volatility**  
 (P,O,V) ☐ P) 99.667 0) +56.41 V) 14.00

Cusip / ID# 3133X7MA9 Option Px Value: 0.00  
 Settle 7/ 6/2004  
 Spread 56.3bp vs 2Y T 2 1/2 05/31/06 Govt@99-16 1/4 ( 2.760)

{NUM}<GO> for:  
 3) Call Schedule  
 1/ 6/ 5 100.00

	OAS Method	Option Free	To Call on 1/ 6/2005	To Mty
Yld		3.322	3.829	3.323
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Model ☒ L=Lognormal  
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88) REFRESH

# Corporates: Evaluate the Issuer, Not Just the Rating

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Verizon 7.65% 6/15/07

Yield to Maturity 3.86%

Aa3 / A+ / AA-

CitiFinancial 6.75% 6/15/07

Yield to Maturity 3.77%

Aa1 / AA- / AA+

# Corporates: Evaluate Industry Trends

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- Not all corporate sectors are created equal
- Financial stability in various corporate sectors changes constantly

## Currently Stable Sectors

- Financial services
- Insurance Industry
- Integrated Oil Companies
  - Exxon Mobil
  - Chevron Texaco
- Diversified Conglomerates
  - General Electric
  - 3M Company

## Sectors With Financial Uncertainty

- Utilities
  - Southern California Edison
  - PG&E
- Telecommunications
- Transportation
- High-tech
  - IBM
  - Microsoft

# Corporates: Evaluate the Rating

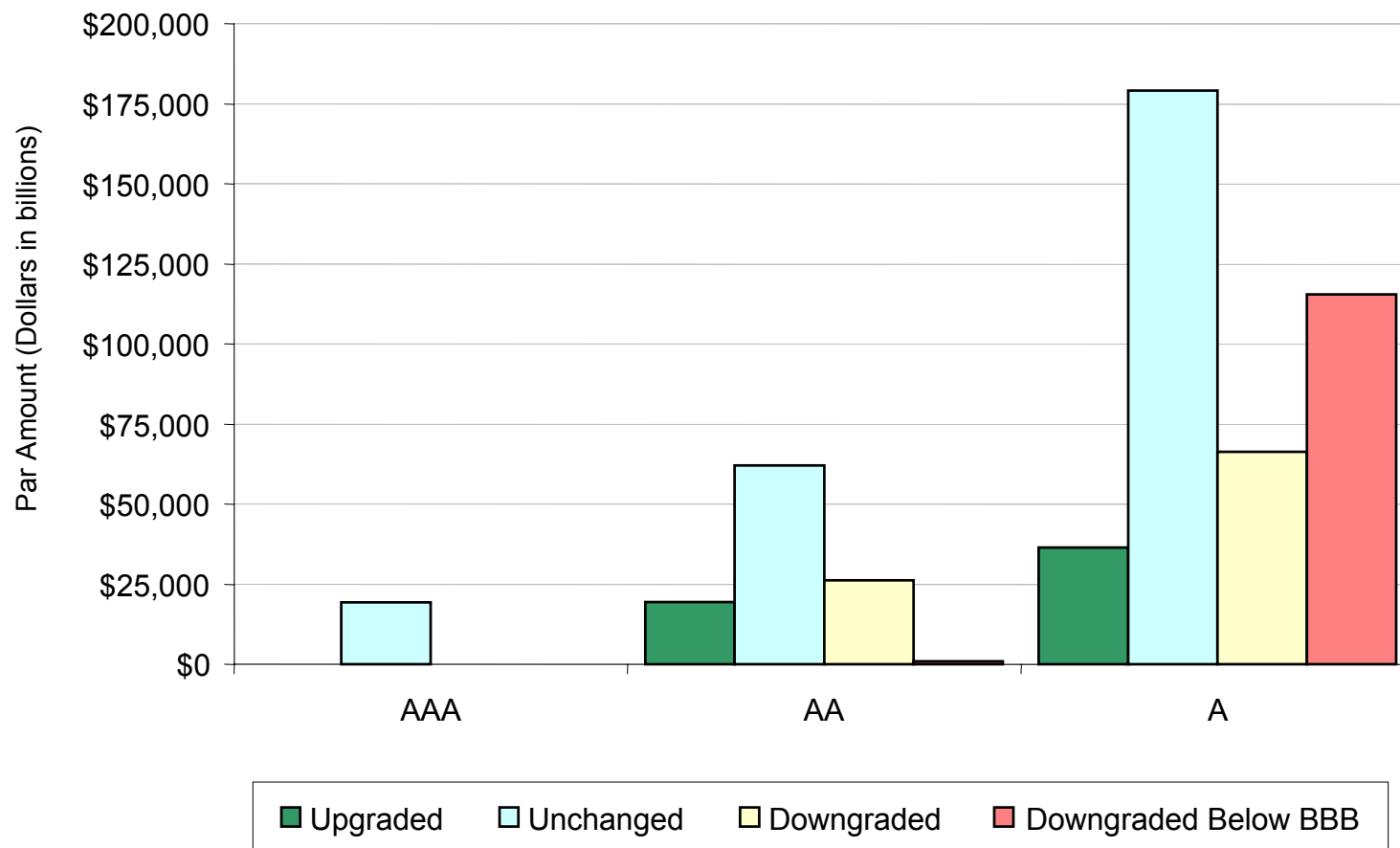
- A study of corporate ratings illustrates that lowers rated corporates don't necessarily provide a significantly higher return.

<u>Merrill Lynch Index</u>	<u>Returns</u>		
	<u>Past 1 year</u>	<u>Past 5 Years</u>	<u>Past 10 Years</u>
1-3 Year "AAA" Corporate	0.65%	6.11%	6.42%
1-3 Year "AA" Corporate	0.97%	6.30%	6.62%
1-3 Year "A" Corporate	1.23%	6.30%	6.63%
1-5 Year "AAA" Corporate	0.09%	6.67%	6.84%
1-5 Year "AA" Corporate	0.30%	7.02%	7.08%
1-5 Year "A" Corporate	0.67%	7.03%	7.10%

\*Period ending 5/31/04

# Corporates: Stability of Credit Ratings

**Merrill Lynch 1-10 Year Corporate Master Index  
Rating Changes from December 2000 to October 2002**



Source: Bloomberg

# “A” Corporates – Risk vs. Return

- Is the higher yield worth the extra credit risk?

Type	Portfolio A	
	Value	Yield
LAIF	\$10,000,000	1.45%
Government	\$35,000,000	2.75%
"AAA" corporate	\$5,000,000	2.90%
"AA" corporate	\$5,000,000	3.00%
"A" corporate	\$5,000,000	3.15%
<b>Total</b>	<b>\$60,000,000</b>	<b>2.60%</b>

# General Tips for Investing in Today's Market



# Dos and Don'ts in Finding Value

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## Do the Analytics!

- Historical analysis
- Yield curve analysis
- Forward-yield curve
- Breakeven analysis
- Option-adjusted spread analysis

## Avoid yield traps!

- New-issue Federal Agencies
- Callables with narrow spreads
- Low-grade corporates
- Odd structured securities

**Consider your long-term investment plan**

**Use your judgment**



# Most Important Tip

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Use a gradual, measured approach

